

Prague center - site report

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- ▷ **MC simulations**
 - CESNET farms
 - network connection
 - tests of DØ software under Debian 3.0
- ▷ **New farm**
 - hardware
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 - plans
- ▷ **Our team**
- ▷ **Summary**



Prague center - CESNET farms



- ▷ CESNET - Czech National Research & Education Network operator
- ▷ we are using two farms for DØ MC simulations
 - provided by CESNET within a framework of MetaCenter project on mutual collaboration on EU Datagrid

▷ **Prague farm**

- using from the beginning of 2001
- 16 dual processor (PIII 700MHz, 1GB memory) working nodes
- batch queue datagrid (28 processes) only for us

▷ **Plzeň farm**

- using from the beginning of July 2002
- 16 dual processor (PIII 1GHz, 1GB memory) working nodes
- sharing queue Long (up to 32 processes)
- ▷ farms are running on Debian 2.2 distribution of Linux
- ▷ PBS batch system

Farms

MC Server

SAM station

NFS fileserver

- 90GB disks space
- ⇐ DØ software
- ⇐ minimum bias data
- ⇒ cache for generated data

Database server

- database of jobs
- allows to divide the process of simulations into parts
- the system is more flexible

Monitoring system

- CPU
- network traffic
- disk space



SAM

- linux115c.fzu.cz
located in Institute of Physics AS CR
- cache - part of 1TB disk array

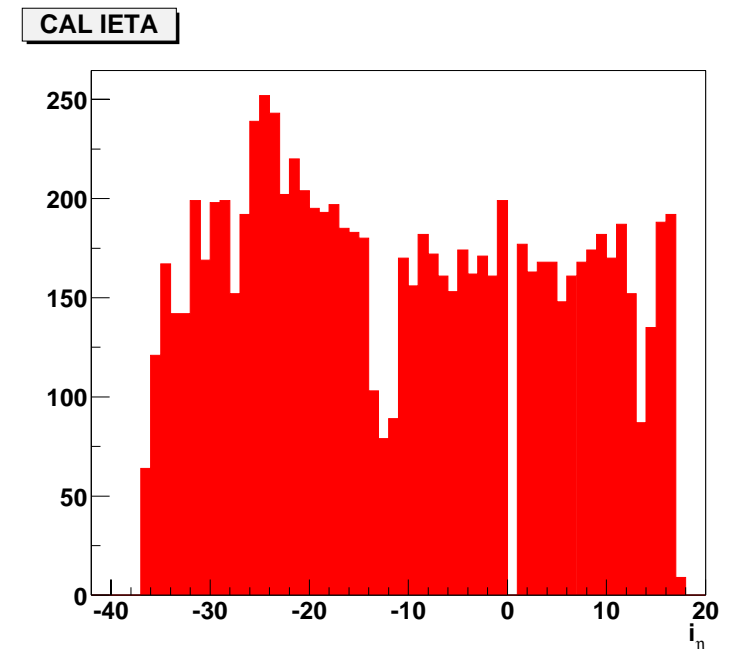


Current status

- ▷ only Linux2.2 mini tarfiles are used for MC simulations
 - fortunately, Debian2.2 is close enough to RedHat 6.x
- ▷ no full DØ software installation
- ▷ one SAM station used for storing MC data
 - able to read also the data from Fermilab

Test of Debian 3.0 (woody)

- ▷ officially released on July 19
- ▷ close to RH7
- ▷ both distributions are based on libc2.2
 - Debian 3.0 on libc-2.2.5
 - RH7.1 on libc-2.2.4
- ▷ p10.15.01 Linux2.4-maxopt mini tarfiles
 - entire MCC chain is running



- ▷ provided by Institute of Physics AS CR
 - ▷ 31 working + 2 testing nodes
 - 2x PIII at 1.13GHz
 - 1GB of memory
 - 18GB SCSI driver
 - ▷ gate keeper
 - ▷ 1TB disk array
 - ▷ network
 - 100Mb between working nodes
 - 1Gb between storage and gate-keeper
 - ▷ connection to the outside world
 - 155Mb to CESNET now
 - upgrade to 1Gb in 2 months
 - ▷ software - RH 7.2 + PBS





New farm - current status and plans



- ▷ farm is dedicated to HEP
 - main priorities are DØ, ATLAS, and ALICE

Current status

- ▷ all hardware components are installed and running
- ▷ OS is installed on all computers
- ▷ installation and configuration of PBS
- ▷ testing software for DØ MC simulations
- ▷ trying to put **full** DØ software environment on one testing computer

Plans

- ▷ start with DØ MC simulations as soon as possible
- ▷ set up farm to allow analysis of DØ data and use it for the analysis
- ▷ move our SAM station directly to farm (and new 1TB disk array)
- ▷ integrate our 10TB tape library with farm (and later on SAM)



Prague center team



- ▷ Miloš Lokajiček (Inst. of Physics AS CR)
 - project leader, hardware, network
- ▷ Alexander Kupčo (Inst. of Physics AS CR)
 - MC simulations, system and software management
- ▷ Karel Soustružník (Charles University)
 - MC simulations
- ▷ Karel Smolek (Czech Technical University)
 - MC simulations, SAM administrator
- ▷ Lukáš Fiala (Inst. of Physics AS CR)
 - hardware, network
- ▷ Jiří Kuhn (Inst. of Physics AS CR)
 - Grid, system administrator
- ▷ Jan Švec (Inst. of Physics AS CR)
 - hardware, network, system administrator



Summary



- ▷ thanks to good cooperation with CESNET and METACENTRUM we have doubled our capacity for DØ MC simulations recently
- ▷ with new farm the capacity doubles again
- ▷ total computer power
 - about 120 PIII processors (at average speed 1GHz)
 - 1+1 TB disk arrays + 0.7 TB local hard drivers (only our farm)
- ▷ good network connection
- ▷ the goal of the project
 - establish DATAGRID computer center that will provide all necessary computer power and infrastructure to perform data analysis in HEP